Olfactory Groove Schwannoma: A Case Report

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We would like to report a case of a 71-year-old woman who presented to the neurosurgery clinic due to an incidentally discovered olfactory groove schwannoma. Magnetic resonance image of the brain was obtained (►Fig. 1A–C). Due to the patient's advanced age and the benign imaging features of the lesion, monitoring was decided upon. However, growth of the lesion was noted on follow-up and gross total resection was done (►Fig. 1D). Histopathology revealed schwannoma.
At the 1-year follow-up, the patient had right-sided anosmia.

Olfactory groove schwannomas are rare, extra-axial, benign tumors. In contrast to other intracranial schwannomas, they frequently affect young males.\(^1,2\) Moreover, since the olfactory bulb is devoid of Schwann cells,\(^1,3\) their pathogenesis is unclear with several theories proposed: The developmental theories suggest mesenchymal pial cell transformation into Schwann cell or aberrant neural crest cell migration.\(^1,2,4\) The nondevelopmental theory suggests origin from Schwann cells present in adjacent structures.\(^1,2,4\) Finally, reactive Schwann cell formation from multipotential mesenchymal cells has also been proposed.\(^1\)

Histopathologic findings pathognomonic for schwannoma include densely packed elongated cells with palisading nuclei (Antoni A pattern) alternating with less cellular regions (Antoni B pattern).\(^3\) On immunohistochemistry, schwannomas stain was positive for S-100\(^3\) and CD-57 (Leu-7)\(^2,4\) and negative for smooth muscle α-actin.\(^4\) Management should be individualized, and includes observation, surgical resection, and radiosurgery.\(^3\)

In conclusion, the pathogenesis of olfactory groove schwannomas remains unclear. They should be included in the differential diagnosis of anterior cranial fossa neoplasms.

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None.

**References**